MEETINGS

The Role of Isoform Diversity in Cytoskeletal Functions

April 24–April 28, 1991

ARRANGED BY

Henry Epstein, Baylor College of Medicine
Donald Fischman, Cornell University Medical College
David Helfman, Cold Spring Harbor Laboratory

119 participants

This meeting focused on the functional significance of the isoform diversity found among cytoskeletal proteins. The cytoskeleton is involved in a variety of cellular processes including cell division, exocytosis, endocytosis, adherence to the substratum, motility, and cell shape. The cytoskeleton of eukaryotic cells is composed of three filamentous systems: actin filaments, intermediate filaments, and microtubules. Each of these systems possesses a major core protein, namely, actin, intermediate filament protein, and tubulin. In a given organism or cell type, considerable isoform diversity of both core proteins and associated proteins is often present. In many cases, the different isoforms exhibit distinct cell- and tissue-specific patterns of expression. A remaining question in biology is to understand the function and significance of the extensive polymorphism found among these proteins. The scientific program encompassed both invertebrate and vertebrate systems. The emphasis of the meeting was also placed on cellular functions as opposed to a particular filament type or protein species in order to focus attention on the role different isoforms play in a cell. Investigators from a wide number of disciplines attended, including cell biologists, biochemists, molecular biologists, and developmental biologists. Topics included cell motility and contractility, molecular motors and intracellular trafficking, cell division, chromosome movement, nuclear structure, isoform switching in development, and neuronal function.

A. Ben-Ze'ev, D. Helfman, H. Epstein

E. Korn

R. Stewart, S. Hawley

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PROGRAM

Cell Motility and Contractility I
Chairman: E. Korn, *National Institutes of Health*

Cell Motility and Contractility II
Chairman: G. Gerisch, *Max Planck Institute, Martinsried*

Isoform Switching during Development and Differentiation
Chairman: A. Ben Ze'ev, *Weizmann Institute of Science, Israel*

Membrane-Cytoskeletal Attachment, Extracellular Matrix
Chairman: M. Beckerle, *University of Utah*

M. Beckerle

Special Platform Session

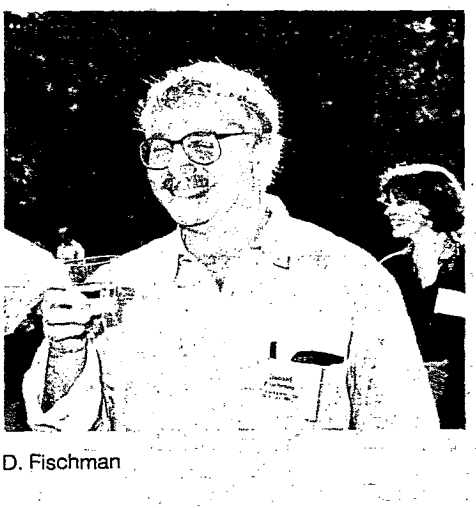
Isoform Diversity in Neuronal Function
Chairman: M. Shelanski, *Columbia University*

Intracellular Trafficking and Organelle Movement
Chairman: R. Vallee, *Worcester Foundation for Experimental Biology*

Cell Division, Chromosome Movement, and Nuclear Structure
Chairman: S. Hawley, *Albert Einstein College of Medicine*

Cell Shape and Morphogenesis
Chairman: M. Mooseker, *Yale University*

Closing Remarks
H. Holtzer, *University of Pennsylvania*



D. Fischman